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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,922	03/01/2002	John S. Taylor	CIL-10712	1684

7590 12/10/2003  
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EXAMINER

TURNER, SAMUEL A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/086,922	<b>Applicant(s)</b> TAYLOR ET AL.	
	<b>Examiner</b> Andre' C. Stevenson	<b>Art Unit</b> 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- |   |  |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 20) <input type="checkbox"/> Other: _____                                    |

## **Detail Action**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 through 5, 7 and 11 through 13 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Ruffner (U.S. Pat. No.5911858).

Ruffner (U.S. Pat. NO.5911858), claim #1, a method for correcting height errors on a substrates comprising altering the density of a region selected from the group consisting of at least a portion of said substrate and at least a portion of a coating on said substrate, wherein an expansion or contraction of said region is produced such that the height of said region changes by an amount needed to mitigate surface height error **(Abstract, Fig. 4 a-c, Column 10, lines 53 through 67, Column 11, lines 1 through 40).**

Furthermore, **Claim #2**, a method of claim 1, wherein said coating comprises a multilayer, is taught by Ruffner (U.S. Pat. NO.5911858) (Abstract, Fig. 4 a-c, Column 10, lines 53 through 67, Column 11, lines 1 through 40).

With respect to **Claim #3**, a method of claim 2, wherein said multilayer comprises a Mo/Si multilayer, is taught by Ruffner (U.S. Pat. NO.5911858) (Column 8, lines 30 through 54).

Considering now **Claim #4**, a method of claim 2, wherein said expansion or contraction results from a reaction selected from the group consisting of (i) interdiffusion and (ii) a chemical reaction of neighboring layers of said multiplayer, wherein said reaction results in a net change in density, which results in change in height of a surface of at least one layer of said multiplayer, is taught by Ruffner (U.S. Pat. NO.5911858) (Column 10, lines 24 through 52).

Furthermore, **Claim #5**, a method of claim 1, wherein the step of altering the density of a region includes depositing energy into said region, is taught by Ruffner (U.S. Pat. NO.5911858) (column 9, line 34 through 67, column 10, line 1 through 2).

Considering now **Claim #7**, a method of claim 6, wherein the step of depositing thermal energy includes depositing laser energy, is taught by Ruffner (U.S. Pat. NO.5911858) (Column 9, lines 34 through 67, Column 10, lines 1 through 2, Column 18, lines 66 through 67, Column 19, lines 1 through 14).

Furthermore, **Claim #11**, a method of claim 7, wherein the step of depositing laser energy is carried out with an excimer laser, is taught by Ruffner (U.S. Pat. NO.5911858) (column 9, line 34 through 53).

With respect to **Claim #12**, a method of claim 1, wherein expansion or contraction of said region is localized to at least one area delineated by spatial extent, is taught by Ruffner (U.S. Pat. NO.5911858) (Abstract, Fig. 4 a-c, Column 10, lines 53 through 67, Column 11, lines 1 through 40).

Considering now **Claim #13**, a method of claim 12, wherein said at least one area comprises pixels, is taught by Ruffner (U.S. Pat. NO.5911858) (Column 1, lines 26 through 47).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8 through 10 and 14 through 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruffner (U.S. Pat. NO.5911858) as applied to claims 1 through

5, 7 and 11 through 13 above, and further in view of Liveasy et al (U.S. Pat. No.6607991).

Ruffner (U.S. Pat. NO.5911858) discloses the claimed invention except for altering the density of a region includes depositing thermal energy into said region. Liveasy et al (U.S. Pat. No.6607991) teaches that it is known to have altering of the density of a region includes depositing thermal energy into said region.

With respect to **Claim #6**, a method of claim 1, wherein the step of altering the density of a region includes depositing thermal energy into said region, is taught by Liveasy et al (U.S. Pat. No.6607991) (Abstract, Column 4, lines 25 through 67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made wherein altering the density of a region includes depositing thermal energy into said region, as taught by Liveasy et al (U.S. Pat. No.6607991), since Liveasy et al (U.S. Pat. No.6607991) states at Abstract, Column 4, lines 25 through 67 that such a modification would allow changes in the thickness or width of the surface.

Furthermore, **Claim #8**, a method of claim 6, wherein the step of depositing thermal energy includes bombarding said region with an electron beam, is taught by Liveasy et al (U.S. Pat. No.6607991) (column 10, line 30 through 47).

Furthermore, **Claim #9**, a method of claim 6, wherein the step of depositing thermal energy includes bombarding said region with an ion beam, is taught by Liveasy et al (U.S. Pat. No.6607991) (column 3, line 8 through 19).

Considering now **Claim #10**, a method of claim 1, wherein the step of altering the density comprises bombarding said region with atoms, is taught by Liveasy et al (U.S. Pat. No.6607991), (column 3, line 8 through 19).

Furthermore, **Claim #14**, a method of claim 1, wherein the step of altering the density of a region is controlled as a function of time, is taught by Liveasy et al (U.S. Pat. No.6607991) (Column 7, lines 36 through 67).

With respect to **Claim #15**, a method of claim 6, wherein the step of depositing thermal energy is controlled as a function of time wherein a desired height change is proportional to the duration of the step of depositing thermal energy, is taught by Liveasy et al (U.S. Pat. No.6607991) (Column 4, lines 25 through 67).

Considering now **Claim #16**, a method of claim 5, wherein the step of altering the density of a region is controlled as a function of the intensity of energy deposited into said region, is taught by Liveasy et al (U.S. Pat. No.6607991) (Column 4, lines 42 through 67, Column 39, lines 51 through 67, column 40, line 1 through 2).

Furthermore, **Claim #17**, a method of claim 13, wherein said pixels comprise an abrupt spatial boundary, is taught by Ruffner (U.S. Pat. NO.5911858) (column 1, line 26 through 47).

With respect to **Claim #18**, a method of claim 17, wherein said abrupt spatial boundary comprises a geometric shape, is taught by Liveasy et al (U.S. Pat. No.6607991) (column 1, line 26 through 47).

Furthermore, **Claim #19**, a method of claim 13, wherein said pixels comprise a non- abrupt spatial boundary, is taught by Liveasy et al (U.S. Pat. No.6607991) (column 1, line 26 through 47).



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (703) 308 6227. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308 3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956. For any papers that are sent from "outside" of the Patenting Corp. All of the papers that are received via this Central Fax Number will be scanned-in in the eDAN.

- (703) 872-9306.

Andre' Stevenson

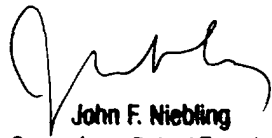
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11/26/03



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